

I-95 Landfill

The only permitted sanitary landfill in Fairfax County (the I-95 inactive sanitary landfill in Lorton) no longer accepts MSW. The I-95 landfill ceased accepting MSW for land placement in December 1995; the only waste product presently landfilled is ash from the E/RRF, which we discussed earlier in this chapter.

The I-95 Landfill Complex employs 38 personnel, including the technical support staff. Regulations require the landfill to have state-certified facility operators during operating hours.

Out-of-county Landfills

Fairfax County currently uses out-of-county sanitary landfills to handle the “overflow” waste from the E/RRF.

Fairfax County currently uses out-of-county sanitary landfills to handle the “overflow” capacity for the E/RRF. When MSW quantities in the county exceed the capacity of the E/RRF, the county diverts trucks from the Transfer Station to out-of-county landfills rather than to the E/RRF.

Currently (2004), the county primarily uses the landfills in Prince William County, King George County (operated by Waste Management), the National Waste Landfill in Luray, VA, and Shoosmith Brothers in Chester, VA. In some cases, the county disposes of waste at the Atlantic Waste Landfill in Waverly, VA, or the King and Queen County Landfill operated by Allied Waste.

Table 6-16 shows the tonnage of MSW Fairfax County shipped to out-of-county landfills from 2000 to 2002. The primary disposal method in Fairfax County is the E/RRF; MSW sent to out-of-county landfills has represented only a small percentage (<10 percent) of the total waste generated in Fairfax County.

Table 6-16. Fairfax County MSW Tonnage Sent to Out-of-County Landfills, 2000–2002

Year	Quantity (tons)
2000	49,028
2001	76,791
2002	35,471

Most sanitary landfills that Fairfax County uses have the capacity to handle current landfill requirements for the next 20 years.

Capacity and Availability

Most sanitary landfills that Fairfax County uses have the capacity to handle current out-of-county landfill requirements for the next 20 years. Some have quarterly permits that cap the MSW quantity accepted. Therefore, although these landfills may have sufficient capacity, they may not be available to accept MSW from the county.

Table 6-17 shows the annual tonnage, estimated years remaining, and distance from the I-66 Transfer Station for the largest landfills in Virginia. The shaded portions represent those landfills used by Fairfax County for MSW disposal.

Table 6-18 summarizes the daily tonnage capacity of the largest private landfills in Virginia. The darker shaded portions represent landfills used by Fairfax County for MSW disposal.

Table 6-17. Potential Overflow Capacity Landfills in Virginia

Landfill	City	Owner/operator	Annual tonnage	Remaining capacity	Years remaining	Distance (miles)
King George County Landfill	King George	King George County/Waste Management	1,643,731	18,500,000	11	60
Atlantic Waste Disposal Landfill	Waverly	Waste Management	1,580,034	7,140,200	4.5	150
Brunswick Waste Mgmt. Facility	Lawrenceville	Allied Waste	1,032,056	16,500,000	20	190
King and Queen County Landfill	Little Plymouth	Allied Waste	823,126	25,350,000	31	145
Old Dominion Landfill	Richmond	BFI	814,749	2,866,000	3.5	100
Shoosmith Sanitary Landfill	Chester	Shoosmith Brothers	676,622	7,671,065	11	120
SPSA Reg. Landfill	Suffolk	SPSA	651,375	3,050,000	4.7	190
Charles City Landfill	Charles City	Waste Management	535,339	16,629,323	31	130
Middle Peninsula Landfill	Glenns	Gloucester County/Waste Management	544,086	20,628,881	38	140
Prince William County Landfill	Manassas	Prince William County	506,178	5,800,000	12	20
Maplewood Rec. & Disposal Facility	Amelia Court House	Waste Management	327,693	19,763,689	60	140
Big Bethel Sanitary Landfill	Hampton	City of Hampton/Waste Management	482,861	55,960,000	116	170
National Waste Landfill	Luray	National Waste	242,919	1,885,000	7.8	80

Source: VDEQ, Solid Waste Managed in Virginia During Calendar Year 2002.

Note: SPSA = Southeastern Public Service Authority.

Table 6-18. Daily Capacities of Potential Overflow Capacity Landfills in Virginia (tons per day)

Landfill	Accepted	Capacity	Capacity limits
King George County Landfill	4,000	4,000	Host agreement
Atlantic Waste Disposal Landfill	4,600	10,000	No Limit
Shoosmith Sanitary Landfill	2,500	4,000	No Limit
Brunswick Waste Mgmt. Facility	3,000	3,000	No Limit
Maplewood Rec. & Disposal Facility	1,200	5,000	Host agreement
King and Queen County Landfill	2,000	4,000	Host agreement
Charles City Landfill	3,400	6,000	Host agreement
Middle Peninsula Landfill	2,000	2,000	Host agreement
Old Dominion Landfill	2,000	4,000	No Limit

Fairfax County projects annual MSW disposal quantities will increase between 10 and 42 percent from 2004 and 2025, assuming continuation of current waste management practices.

Assessment of Current and Future Disposal Needs

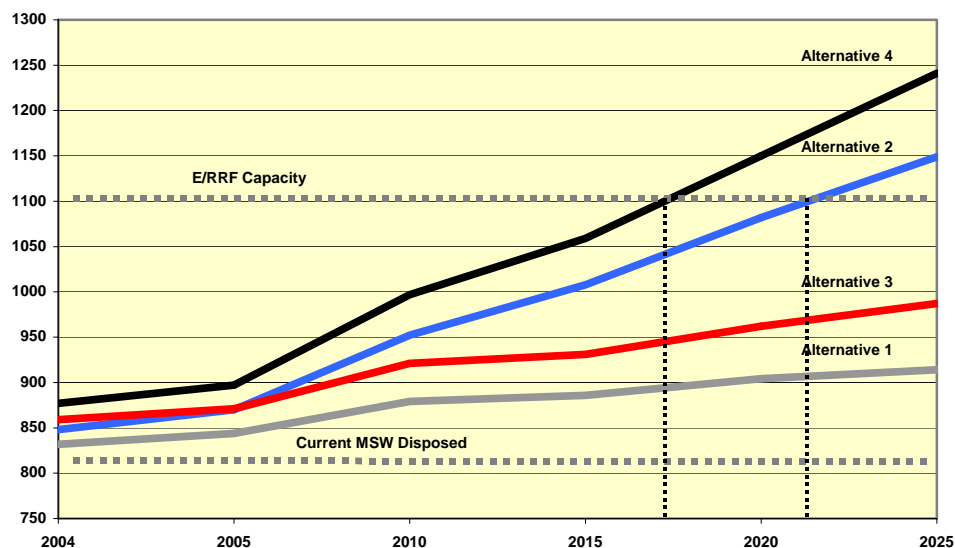
Chapter 2 of this SWMP presents the projected quantities of MSW generated, recycled, and disposed in Fairfax County over the SWMP planning period. The county developed four alternative MSW projections to address the probable range of variance in the future generation rates.

Table 6-19 and Figure 6-9 show the MSW disposal projections for Fairfax County over the SWMP planning period for the four projection alternatives. **(Note that these projections assume the continuation of the county's current management practices and conditions.)** The county projects annual MSW disposal quantities to increase between 10 and 42 percent from 2004 to 2025.

Table 6-19. MSW Disposal Projections in Fairfax County, 2004–2025 (in thousands of tons)

Year	MSW Disposed			
	Alternative 1	Alternative 2	Alternative 3	Alternative 4
2004	832	848	859	877
2005	844	870	871	897
2010	879	952	921	997
2015	886	1,008	931	1,059
2020	904	1,082	962	1,150
2025	914	1,149	987	1,241

Figure 6-9. MSW Disposal Projections in Fairfax County, 2004–2025 (in thousands of tons)



Currently, the primary facility for the disposal of the county's MSW is the E/RRF. The maximum daily capacity of the E/RRF is 3,000 tons; a 15,000-ton refuse storage pit spreads the E/RRF maximum capacity to five days. Currently, spikes in daily feed volumes to the E/RRF require that roughly five percent of the annual MSW disposal volume must be instead disposed in out-of-county landfills.

The theoretical maximum annual capacity of the E/RRF is 1,168,000 tons (based on FY2001 annual tonnage of 1,067,224 tons and boiler availability of 91.36%)⁵. However, in practice, boiler availability of 90 percent is considered indicative of good operations and maintenance practices. Based on an availability of 90 percent, the county estimates the practical capacity of the E/RRF to be 1,095,000 tons per year.

Until 2011, the county is under contract with CFI to supply at least 930,750 tons of MSW per year to the E/RRF. The county has consistently exceeded this requirement, historically operating the E/RRF facility near its maximum practical capacity of roughly 1,095,000 tons of MSW per year. When the volume of MSW generated in Fairfax County is not sufficient to meet the 930,750 tons operating requirement, the county accepts other MSW for disposal at the E/RRF.

As MSW disposal requirements in Fairfax County increase over the next 20 years, the additional county MSW is expected to replace out-of-county waste feed to the E/RRF. Therefore, the volume of out-of-county waste accepted at the E/RRF is projected to decrease by the same amount as county waste increases.

⁵ Dvirka and Bartilucci Consulting Engineers and Solid Waste Services, LLC. *I-95 Energy/Resource Recovery Facility, Annual Operations Monitoring Report, Fiscal Year 2001*. October 2001.

Figure 6-10 presents the projected percentage of MSW feed to the E/RRF representing waste generated in Fairfax County, for the four alternatives over the SWMP planning period. Figure 6-11 presents the expected percent of out-of county waste for the four alternatives until 2025.

Two of the four MSW projection alternatives suggest Fairfax County MSW disposal will exceed E/RRF capacity sometime after 2015.

Two MSW disposal projection alternatives (alternatives 2 and 4) suggest that MSW disposal requirements in Fairfax County will exceed the capacity of the E/RRF before 2025. For these alternatives, Fairfax County must find other MSW disposal alternatives for the excess MSW. In alternative 2, the county expects Fairfax County MSW disposal to exceed the E/RRF capacity between 2020 and 2025. In alternative 4, county MSW disposal is expected to exceed the E/RRF capacity between 2015 and 2020. In both of these alternatives, the county projects a steadily reducing percentage of out-of-county waste combusted at the E/RRF.

In alternatives 1 and 3, Fairfax County projects county MSW disposal rates to remain below the capacity of the E/RRF over the SWMP planning period. In alternative 1, the county projects the Fairfax County percentage waste combusted at the E/RRF to be roughly 83 percent in 2025 compared to 76 percent today. In alternative 3, the county projects a greater increase to roughly 90 percent of the waste combusted at the E/RRF.

Figure 6-10. Fairfax County MSW Disposal Projections as Portion of Waste Combusted at E/RRF, 2004-2025

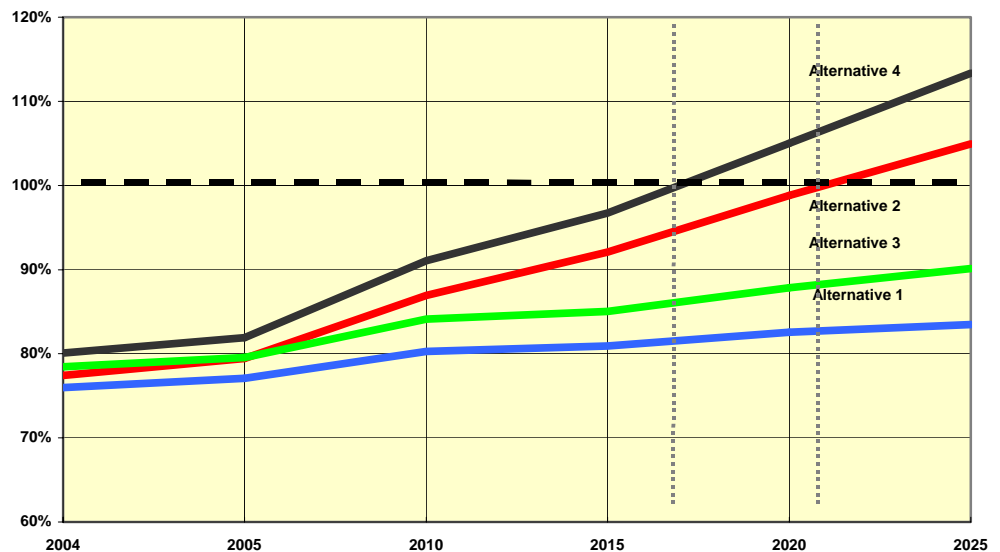
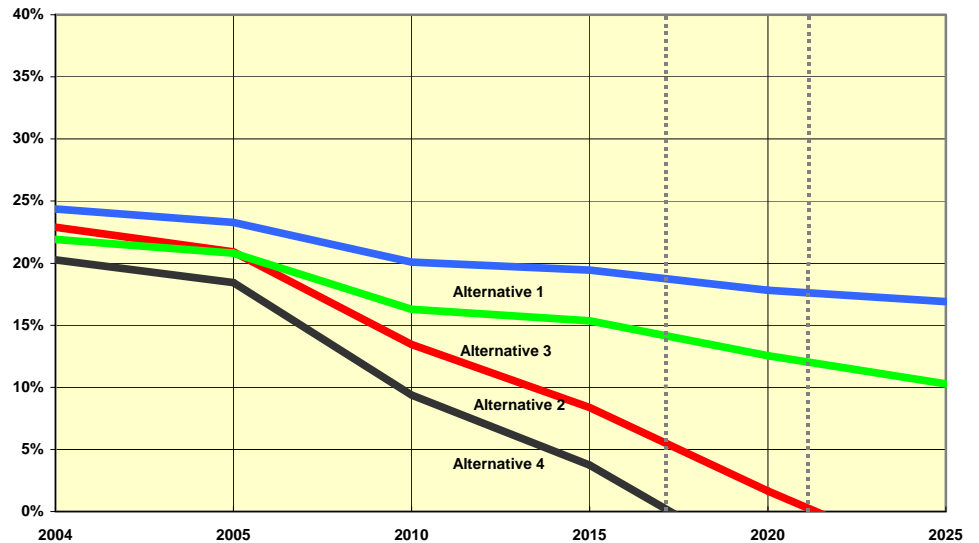


Figure 6-11. Projected Out-of-County Percentage of Waste Combusted at I-95 E/RRF, 2004-2025



SWMP Actions

Table 6-20 shows Fairfax County's SWMP actions for the disposal of MSW. The county selected SWMP actions based on their alignment with the SWMP objectives (in Chapter 4) and their ability to close the gaps between the county's current SWM system and that required in the future. These SWMP actions are discussed in more detail in Chapter 11.

Table 6-20. Fairfax County MSW Disposal SWMP Actions

MSW Disposal SWMP Actions
Continue using the current disposal system (as the preferred alternative)
If negotiations with Covanta Fairfax, Inc. are unsuccessful, the county will use only out-of-county landfills for MSW disposal